

## **ABSTRACT**

Provided is a PHB block copolymer having orientation-induced rubber-elasticity and temperature-sensitive shape memory effects, comprising a plurality of 3-hydroxybutyrate (3HB) blocks as a repeating unit and a plurality of 3-hydroxyvalerate (3HV) blocks as a repeating unit, and optionally a hydroxy acid repeating group containing 6 or more carbon atoms.

The PHA block copolymer exhibits orientation-induced rubber-elasticity and shape memory effects with a fast shape-recovery rate, and therefore such characteristics in conjunction with physical properties such as biodegradability and biocompatibility unique to PHA enable application thereof to a variety of uses.